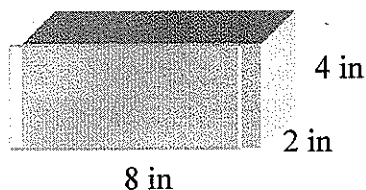


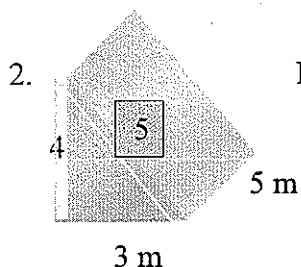
Name: Key
 Geometry Volume Quiz, Chapter 12

Show your work. Label your answers. Do you notice what is missing from this practice quiz?
 Do you miss it?

1. Find the volume of the prism.



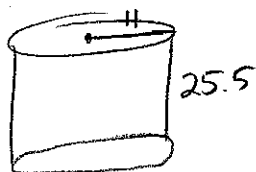
$$V = 8 \cdot 2 \cdot 4 = 64 \text{ in}^3$$



Note: The slant edge is 5 m. The square around it means nothing.

$$\begin{aligned} V &= \left(\frac{1}{2} \cdot 3 \cdot 4 \right) \times 5 \\ &= 6 \times 5 \\ &= 30 \text{ m}^3 \end{aligned}$$

3. Matt purchased a cylindrical aquarium for his room. The aquarium has a height of 25.5 inches and a diameter of 22 inches. Find the volume of the aquarium.



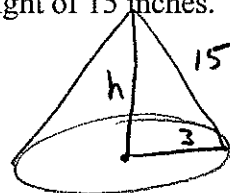
$$\begin{aligned} V &= (\pi \cdot 11^2) \cdot 25.5 \\ &= 3085.5\pi \approx 9,693.38 \text{ in}^3 \end{aligned}$$

4. The start of the pyramid age began with King Zoser's pyramid, erected in the 27th century B.C. In its original state, it stood 62 meters high with a rectangular base that measured 140 meters by 118 meters. Find the volume of the original pyramid.

$$\begin{aligned} V &= (140 \times 118) \times 62 \times \frac{1}{3} \\ &= 341,413.\bar{3} \text{ m}^3 \end{aligned}$$

5. Find the volume of a cone with a diameter of 6 inches and a slant height of 15 inches.

$$\begin{aligned} V &= \frac{1}{3} \cdot (\pi \cdot 3^2) \cdot \sqrt{216} \\ &\approx 138.515 \text{ in}^3 \end{aligned}$$



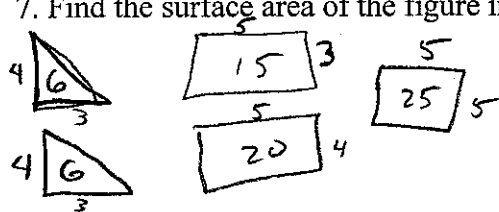
$$\begin{aligned} 3^2 + h^2 &= 15^2 \\ h^2 &= 216 \\ h &= \sqrt{216} \end{aligned}$$

Review! Woo-hoo!

6. Find the surface area of the figure in number 1.

$$\begin{aligned} 8 \times 2 &= 16 \times 2 = 32 \\ 8 \times 4 &= 32 \times 2 = 64 \\ 4 \times 2 &= 8 \times 2 = 16 \\ \hline &112 \text{ in}^2 \end{aligned}$$

7. Find the surface area of the figure in number 2.



$$\begin{array}{r} 6 \\ 6 \\ 15 \\ 20 \\ + 25 \\ \hline 72 \text{ m}^2 \end{array}$$

8. Find the surface area of the cone in number 5.

$$S.A. = \pi \cdot 3^2 + \pi \cdot 3 \cdot 15 = 9\pi + 45\pi = 54\pi \approx 169.646 \text{ in}^2$$

9. In a square pyramid, state the number of bases, faces, edges, and vertices.

1 base
5 faces
5 vertices
8 edges

10. Find the area of a trapezoid with bases of 6 and 8 with a height of 3 ft.

$$A = \frac{1}{2} \cdot 3 \cdot (6+8) = 21 \text{ ft}^2$$

11. Papa Johns' large pizza has a diameter of 14" while it's medium has a diameter of 12".

Find the area of each pizza. The online specials/coupons have a medium for \$10 and a large for \$11. Which would you buy and why?

(Area) large = $\pi \cdot 7^2 = 49\pi \text{ in}^2$ $\frac{11}{49\pi} \approx \$0.07/\text{in}^2$
 medium = $\pi \cdot 6^2 = 36\pi \text{ in}^2$ $\frac{10}{36\pi} \approx \$0.08/\text{in}^2$

Vocab:

12. A quadrilateral with four right angles and 4 equal sides. square

13. A polygon with nine sides. nonagon

14. A polygon with five sides. pentagon

Large is the better deal because the cost per square inch is about 2¢ less on the large